

SUST 418*/AMST 320/PCST 340/GEOG 499
Nuclear New Mexico: Environmental & Social Impacts

3 Credit Hours

Spring 2017

Wednesday 2-4:30pm

Woodward Lecture Hall 147

Instructor: Eileen Shaughnessy

Email: eileens@unm.edu

Phone #: Office- 505- 277-3431 Cell- 651-587-1731

Office: Castetter Hall (Biology Building), room 163B

Office Hours: Monday 10:45- 12:00pm or by appointment



Photo of the first atomic explosion at Trinity Site, New Mexico
Courtesy of: <http://www.white-sands-new-mexico.com/military.htm>

As the birthplace of the bomb and also as a main-player in the current nuclear weapons industry, New Mexico is a rich source of study for all things “nuclear.” In this course, we will explore multiple aspects of nuclearism in the Southwest, including environmental justice issues, environmental racism, radioactive colonialism, atomic tourism, and the global implications of “the bomb.” How does the ubiquitous presence of nuclearism in the Southwest impede our ability to live sustainably? What social justice concerns must we confront and what communities most bear the brunt of those concerns? We will take an interdisciplinary and critical approach to answering these questions and more throughout this course.

Course Objectives:

- To gain a thorough understanding of the historical, environmental, and socio-cultural impacts of “the bomb” on our local communities.
- To be able to identify social equity issues regarding race, class, and gender related to nuclearism.
- To strengthen critical thinking skills through intensive writing, reading, and discussion.
- To sharpen students’ ability to ask critical questions and contextualize conversations about sustainability and environmental justice within current activism and scholarship.

Course Outcomes:

- Students will master at least 70 percent of factual course content measurable via reading responses, a midterm exam, and critical essays.
- Students will create and present one original research project, citing at least six scholarly sources, creatively responding to the three pillars of sustainability and at least six consequences of nuclearism.
- Students will complete 10 hours of community engagement such as public events and grassroots organizations to supplement classroom learning.
- Students will attend at least two out of three Saturday field trips and write a critical reflection paper grounded in scholarly literature using proper MLA citation.

Required Texts:

- Leslie Marmon Silko. *Ceremony* Penguin Books, 1986.
- Various articles available on our class UNM Learn website (<https://learn.unm.edu/>).

Grading Scheme:

Undergraduate Students:

Class Participation:	15%
Midterm:	10%
Reading Responses:	20%
Community Hours:	10%
Field Trip Critical Reflection/Class Facilitation:	15%
Final Project:	30%

Graduate Students:

Class Participation:	15%
Reading Responses:	20%
Class Facilitation:	15%
Community Hours:	10%
Field Trip Critical Reflection:	10%
Conference paper:	30%

Class Participation:

This class relies on the intellectual commitment and active participation of ALL students. In order for the course to be effective, you MUST have the reading assignments completed and ready for in-depth discussion for each meeting. Active listening and mutual respect are requirements for this course. Our course covers topics that you may not agree with or may elicit intense and emotional reactions from you. While some readings may challenge you or make you feel uncomfortable, take this as sign that you are learning and pushing the boundaries of what you take for granted. I ask that you keep an open mind and challenge yourself while being respectful of the authors we read, your fellow classmates, and me. Hate speech, constant interruptions, and disrespect will not be tolerated.

Please turn off and put away all cell phones during class. Refrain from facebook, email, and anything other than a word doc for note-taking as it is distracting to all around you.

ITV STUDENTS:

We are excited to have you in the course and even though you are not physically in the classroom space, you are just as much a part of the class as the on-campus students and all of the same class participation expectations apply to you. Please make sure that the camera on your computer is pointed at you at all times so that we can see you. Your perspective and voice are important to the class, so please make sure the mic is turned on when you are speaking (and muted when you are NOT speaking). Be alert, attentive, and respectful- ask questions when they come up and communicate when technological issues happen (and they will happen!).

Midterm

The Midterm will be a short “take-home” exam that can be accessed and completed through Learn. It will consist of term identification, multiple choice, short essay, and/or long essay questions about the material covered in class. All lectures, readings, guest speakers, and films are fair game for midterm material. We will review for the midterm on March 22nd and it comes due on March 28th. More information will be provided in class.

Reading Responses:

For EACH assigned reading, you will be expected to write one paragraph (4 sentences minimum) that explains *in your own words*:

- 1.) the author’s main arguments
- 2.) the author’s intended audience
- 3.) their sources
- 4.) Lastly, you will write one question the reading brought up for you and one comment you have about the reading.

The bulk of your response should be a summary of the author’s main arguments; please reserve your opinion about the piece for the comment and question section of the response. You will submit them on Learn and I will grade them on a complete/not-complete grading scale. They are due each week on Wednesday morning by 10am. You will also be expected to write a short comment/response to a fellow student’s reading journal each week by Friday at 10am. Let’s create a vibrant community on the web. I will give half credit for late journals. **No hardcopies will be accepted.** It is very important that you stay on top of your Reading Journals because you may be called on in class to help facilitate our discussion of a reading with your comment or question. If you write a reading journal for the readings labeled OPTIONAL, you will receive an extra credit point counted towards your overall reading response grade.

Important Note: It is my experience that reading about these topics can lead to “burnout” and/or a time of feeling emotionally overwhelmed. Knowing this, I will allow you to take one full week off of reading responses with no penalty. You are still expected to do the readings and come to class ready to discuss them. Keep this in mind throughout the semester and use it when you need it.

Community Hours:

A central facet of the Sustainability Studies Program is bridging the gap between theory and action/activism. In this course, you are required to log 10 “Community Hours” in which you connect the topics of this course with events, organizations, and activism within our wider community. I will share many opportunities via email and in class such as public lectures, events, and volunteer opportunities that will count towards these hours. You need to keep a log of your hours (how many hours at each event), get a signature if possible or provide a brochure, and write a one-paragraph reflection on the hours and how they complimented your learning in our course. Be sure to email me ahead of time if you are unsure if an event will count towards these hours.

Field Trip Critical Reflections:

You are required to attend at least TWO of the three Saturday field trips (Los Alamos on March 25th, Trinity Site on April 1st, and the Jackpile-Paguate Uranium Mine near Laguna on TBA) in addition to the class trip to the NMNSH in Albuquerque. After attending these field trips, you will write a critical reflection in which you compare the sites you visited, and tie in your original observations with our course material. Your paper should be 3-5 pages double-space and type-written with a bibliography. The reflection must follow the specific guidelines that will be provided in class and cite at least 3 sources from our class readings and 2 outside scholarly sources. This paper is due April 26th.

Class Facilitation:

Every student will get the chance to help facilitate our class discussion on one of the readings. Each student will be required to pair up with one or two other students to help lead class discussion of an assigned reading. You will be required to provide a brief summary of the reading's main points, audience, and sources and at least 4 discussion questions for the class. You will not be required to submit a reading response for the reading that you facilitate.

Final Projects:

Students will have the opportunity to create original projects that align with our course topics. You will have the option to pair with one or two other students in your project, or to work alone. Ideally, your projects will respond creatively to the social justice issues brought up by our discussions, speakers, and reading material and also be useful to communities beyond our classroom. Possible projects include: creating a website with information about the health impacts of radiation; putting together a "Toxic Tour" of an area of our local community, organizing a panel discussion with local activists on nuclear issues...the sky is the limit. Go with your passions and as well as your gifts.

You will turn in a proposal for your project on February 15th and rough draft on March 8th. You will present your final project on May 3rd and turn in a short reflection paper about the work you did over the semester. With your permission, I will post your project on our class website: www.nuclearnewmexico.com.

Attendance Policy and Late Work:

Regular attendance is crucial to maintaining a committed and vibrant intellectual atmosphere. You are allowed ONE absence, and after one absence **your overall participation grade will be lowered by 5 points for each additional absence.** *Documented* medical and family emergencies are not included. (Note: Stellar participation in class has the potential to raise a borderline grade. Attendance problems or lack of engagement can lower your grade.) Unless you have made prior arrangements with me, late papers will be graded after a 10% reduction **for each day past the due date.** This does not apply to documented medical or family emergencies. Late reading responses will receive half credit.

Academic Dishonesty:

See pathfinder.unm.edu/common/policies/academic-dishonesty.html for the official policy. Let me know if you have any questions. Always cite your sources (whether you quote directly or paraphrase) to clearly to avoid problems with plagiarism. We will discuss plagiarism in detail at the beginning of the course so as to avoid any confusion.

Accommodation:

Accessibility Services (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner. If you need local assistance in contacting Accessibility Services, see the Bachelor and Graduate Programs office.

Class Schedule:

***Note*:** I don't plan on it, but I reserve the right to change our schedule if I deem necessary. I will always give as much advance notice as I can and communicate the changes both in class and via email.

Week 1: Introductions, Origin Stories, and Nuclearism
--

Wednesday, Jan. 18th:

Topics:

- 1. Introductions**
- 2. Go Over Syllabus, Class Structure, Reading Journals**
- 3. Hiroshima and Nagasaki**
- 4. An Interdisciplinary Introduction to Nuclearism**

Reading:

- OPTIONAL: "Introduction and The Origins of Los Alamos" from *The Day the Sun Rose Twice* by Ferenc Szasz

Watch *Oliver Stone's Untold History of the United States: The Bomb*

Week 2: Uranium and Indigenous Activism
--

Wednesday, January 25th :

Topics:

- 1. The Front End of the Nuclear Fuel Cycle**
- 2. Uranium Mining & Milling and Indigenous Communities**
- 3. The Four Characteristics of Nuclearism**

Readings:

- "Nuclearism" by Robert Jay Lifton
- "Nuclear Legacies: Arrogance, Secrecy, Ignorance, Lies, Silence, Suffering, Action" by Laura Nader and Hugh Gusterson
- "In Search of Treasure" from *Wastelanding: Legacies of Uranium Mining in Navajo Country* by Traci Voyles
- OPTIONAL: "Native Americans and Uranium Mining as State-Corporate Crime" by Linda Robyn
- OPTIONAL: "Sacrificial Land" from *Wastelanding: Legacies of Uranium Mining in Navajo Country* by Traci Voyles

Due: Reading responses and student bios & pictures posted to learn under "Meet Our Class"

Guest Speaker: Leona Morgan from *Diné No Nukes*

Week 3: Environmental Racism & Settler Colonialism

Wednesday, February 1st:

Topics:

- 1. New Mexico's Colonial Past and Present**
- 2. Radioactive Colonialism: What is it?**
- 3. The Nuclear Uncanny**

Readings:

- "Native America: The Political Economy of Radioactive Colonialism" by Winona LaDuke and Ward Churchill
- Excerpts from *The Militarization of Indian Country* by Winona LaDuke.
- "The Enlightened Earth" Joseph Masco
- OPTIONAL: "Nuclear Natures: In the Shadows of the City on the Hill" from *Understories* by Jake Kosek

In-class: Watch *The Return of Navajo Boy*

Due: Reading Responses

Week 4: Radiation and Health; Nuclear Accidents and Nuclear Winter

Wednesday, February 8th:

Topics:

- 1. Reference man**
- 2. Radiation 101**
- 3. "No safe amount."**
- 4. Nuclear Accidents, Nuclear Winter**

Readings:

- "Radiation Basics" from *The Nukes Next Door*
- "Death Wears Bunny Slippers: Hanging Out with the Disgruntled Guys who Babysit Our Aging Nuclear Missiles." By Josh Harkinson
- "The Nuclear Winter" by Carl Sagan
- Selections from "The Limits of Safety" by Scott Sagan
- "Trump and the Nuclear Codes: How to Launch a Nuclear Weapon" Union of Concerned Scientists
- OPTIONAL: "Babysitting the Bomb" by Reid Cherlin
- OPTIONAL: Selections from *Broken Arrow*
- OPTIONAL: "Background Radiation" from *A Field Guide to Radiation*
- OPTIONAL: "The Problem: Nuclear Radiation and its Biological Effects" Rosalie Bertell

Due: Reading responses

Guest Speaker: Chris Shuey from *The Southwest Research and Information Center (SRIC)*

Week 5: Science as Violence? The Logic of Progress, Human Experimentation

Wednesday, February 15th:

Topics:

- 1. Science, Gender, and Violence**
- 2. Knowledge at What Cost?**
- 3. Human Experimentation**
- 4. Reference Man**

Readings:

- “Science, Nature, and Gender” by Vandana Shiva
- “Science” from *Welcome to the Machine* by Derrick Jensen
- Selections from *The Plutonium Files* by Eileen Welsome

Due: Reading responses and **Project Proposals**

Week 6: The Global Impacts of Nuclear Testing; Radionuclides in the Environment

Wednesday, February 22nd :

Topics:

- 1. Nuclear Testing**
- 2. Radionuclides and Bioaccumulation**
- 3. NUKEMAP**

Reading:

- “So Long Mom, I’m Off to Drop the Bomb” by Alex Wellerstein
- Selections from *Under the Cloud: The Decades of Nuclear Testing* by Richard Miller
- “From Hell to Breakfast” from *Savage Dreams* by Rebecca Solnit
- OPTIONAL: Excerpt from *Downwind: A People’s History of the Nuclear West* by Sarah Alisabeth Fox

Due: Reading responses

Week 7: Operation Crossroads, Pacific Islanders, and Bikini Atoll

Wednesday, March 1st:

Topics:

- 1. Nuclear Testing in the Pacific Islands**
- 2. U.S. Colonialism**

Reading:

- “Rape of the Land” from *Conquest* by Andrea Smith
- “‘more like us than mice’: Radiation Experiments with Indigenous Peoples” by Barbara Rose Johnston

Watch *Nuclear Savage*

Guest Speaker: *Nuclear Savage* Filmmaker and Director
Adam Horowitz

Due: Reading responses

Week 8: WIPP and Sandia's Mixed Waste Landfill/Dump; Threats to Our Water, Air, and Soil

Wednesday, March 8th:

Topics:

- 1. WIPP and Sandia's Mixed Waste Landfill**
- 2. Threats to Our Water, Air, and Soil**
- 3. Nuclear Waste Storage in the Future**

Reading:

- "Toxic Waste: Everything Has to Go Somewhere" from *The Orphaned Land* by V.B. Price
- "This Place is Not a Place of Honor" Sandia National Laboratories Report
- Excerpts from *The Nukes Next Door: Shedding Light on a Nuclear Neighbor...Sandia National Labs* by SLAP
- "Nuclear Wasteland" from *The Tainted Desert* by Valerie Kuletz
- OPTIONAL: Excerpts from *Nuclear Wastelands*
- OPTIONAL: "Bad to the Bone: Analysis of the Federal Maximum Contaminant Levels for Plutonium-239 and Other Alpha-Emitting Transuranic Radionuclides in Drinking Water" by Arjun Makhijani

Due: Reading responses and **Rough draft of final project**

Week 9: Spring Break: Ceremony

March 13-17th: NO CLASS, Read Ceremony

Week 10: Ceremony

Wednesday, March 22nd:

Topics:

- 1. Discuss Ceremony**
- 2. Midterm Review**

Due: Reading responses

****FIELD TRIP TO LOS ALAMOS SATURDAY, MARCH 25TH: TOXIC TOUR WITH JONI ARENDS AND DAVID HOLTKAMP** (Readings: Edith Warner, and Jake Kosek)**

****Take-home midterm due on Learn by midnight on Tuesday, March 28th ****

Week 11: Atomic Tourism; Feminist Perspectives on the Bomb

Wednesday, March 29th:

Topics:

- 1. Atomic Tourism and "Consuming" the Bomb**

2. Language as Power
3. Feminism, Sexual Violence, and Nuclearism

Readings:

- “Atomic Tourism” Hugh Gusterson
- “Sex and Death in the Rational World of Defense Intellectuals” by Carol Cohn
- “Explosive Issues: Sex, Women, and the Bomb” from *Homeward Bound* by Elaine Tyler May
- “Hot Spots: Justice, Power, and Gender in the Radioactive Present” from *Wastelanding: Legacies of Uranium Mining in Navajo Country* by Traci Voyles
- OPTIONAL: “From Secrets of Life to Secrets of Death” by Evelyn Fox Keller

Due: Reading responses

****FIELD TRIP TO THE TRINITY SITE ON WHITE SANDS MISSILE RANGE, SATURDAY APRIL 1st** (Readings Alex Wellerstein, Michihiko Hachiya, Jonathan Fetter-Vorm)**

Week 12: Art, Activism, Resilience

Wednesday, April 5th:

Topics:

1. Nuclear Guardianship: Rocky Flats
2. Integration of the Whole
3. Art as Activism: Judy Chicago, Patrick Nagatani, and others
4. The Work that Reconnects: Trauma and Environmental Destruction

Reading:

- “The Greening of the Self” by Joanna Macy
- “Rocky Flats & Nuclear Guardianship”
- “The Billboard Campaign” by Joseph Masco
- Radiation Monitoring Project website

Due: Reading responses and informal project check-in

Week 13: Field-Trip to NMNSH in Albuquerque
--

Wednesday, April 12th:

Field trip to the National Museum of Nuclear Science and History (NMNSH) in Albuquerque
 ITV STUDENTS: No class. Watch the footage of the field trip when it is posted and visit http://www.pcf.city.hiroshima.jp/frame/Virtual_e/tour_e/guide2_4.html for a comparison to the Hiroshima Peace Museum.

ALL STUDENTS: Write a brief (3-5 paragraph) response to the field trip comparing these two sites and relating them to our class themes. **Due on Learn April 18th 10am.**

Week 14: Nuclear Energy

Wednesday, April 19th:

Topics:

- 1. Fukushima Daiichi Meltdown**
- 2. Chernobyl**
- 3. Commercial Nuclear Reactors: An Overview of Health Risks & Environmental Concerns**
- 4. The Connection Between Nuclear Power and Nuclear Weapons**

Reading:

- Excerpts from *Devil's Tango: How I Learned the Fukushima Step by Step* by Cecile Pineda
- TBA
- OPTIONAL: "Tragedy at Fukushima Daiichi" James Mahaffey from Atomic Accidents

Due: Reading responses

Week 15: Atomic Culture

Wednesday, April 26th:

Topics:

- 1. Climate Change, Apocalyptic Imagery, and Nuclearism**
- 2. Cultural Responses to the Bomb**
- 3. Sci-fi, Cold War Films and Beyond**

Reading:

- "Bad Weather: On Planetary Crisis" by Joseph Masco
- "Mutant Ecologies: Radioactive Life in Post-Cold War New Mexico" from *Nuclear Borderlands* by Joseph Masco
- "The Nuclear Mushroom Cloud as Cultural Image" by Peggy Rosenthal

Due: Reading responses and **Field Trip Reflection Papers**

Week 16: Final Projects

Wednesday, May 3rd:

Present final projects and celebrate your hard work!

Due: Community Hours and Final Papers